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THE TRANSFER IMPLICATIONS OF CONSUMER CREDIT REGULATION

William C. Dunkelberg*

Abstract

The thesis of this paper is that the regulation of consumer credit results in the transfer of income and wealth among groups of consumers. The paper focuses on rate ceilings and creditors' remedies and identifies and measures a series of related regulatory-induced transfers.

The author observes that consumers as savers are the ultimate source of funds to be lent to other consumers as well as to government and business. A credit union provides a simple example. In this context, it is easy to see that effective lending rate ceilings lower the return that lenders (consumers) can ultimately earn on their savings. Rate ceilings also determine which consumers can economically be served by the lending institution. Consumers who can still qualify for credit at a low regulated price benefit, while those who cannot qualify are forced to find more expensive credit or do without credit services. That denial of credit can cost the consumer money, is documented by an example of the value of financing a washer and dryer, even at rates as high as 40 percent. Loss of access to credit can impose significant economic losses on consumers, especially during periods of rapid inflation.

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Bad debt losses must also be borne by the suppliers of funds--usually in the form of a lower rate of return. These losses are "transfers" of wealth or income to borrowers from consumers providing funds. Even cash customers may be subsidizing the use of credit by some consumers, when the revenues generated by a retail credit card program are not sufficient to cover all the costs associated with the program. Then, the deficiency is covered in the price of merchandise, and paid by all customers, whether credit is used or not. Among credit card users, those who pay no finance charges are also subsidized. Although this subsidy is not directly enforced by regulation, legislators have proposed making it mandatory by requiring "free periods" for the payment of credit card obligations.

The paper identifies quantitatively the effects of rate ceilings and limitations on creditors' remedies by developing many examples of regulatory effects. Credit card use is restricted in low rate-ceiling states, with a lower proportion of consumers having cards. In some states, regulations have eliminated certain segments of the market (consumer finance companies in Maine and Arkansas for example). Low rate ceilings in Washington resulted in higher bankcard merchant discounts, a cost borne by retail cash customers as well as credit users. A study by the Credit Research Center showed that over the 1973-75 period, merchant discounts made up 28 percent of Washington bank credit card revenues, compared to 14 percent for California banks. Low rate ceilings also induce larger deficiencies in retail credit card operations, causing the cash customer to subsidize credit card use. Using data on California retailers, the paper estimates that a lowering of the ceiling rate from 18 percent to 12 percent could be offset by an average increase of .6 percent in merchandise prices.

Transfers due to bad debt losses amounted to about $2 billion in 1976. Not all of this amount was due to regulation, since it is not economical to collect 100 percent of all delinquent accounts. But regulatory restrictions increase the size of this transfer by increasing the cost of collecting debts. Interestingly, about 60 percent of the losses were "received by" the lowest 25 percent of the income distribution of credit card users. Many losses result from consumer inability to repay due to job loss, accident, illness or other unexpected events. Thus, "transfers" in the form of bad debt losses are often received by the types of people who are the target of welfare and assistance programs. However, the "transfers" are unsystematic and expensive, and resources are expended to prevent them from occurring. Furthermore, the transfers are supported by an implicit tax on savings, as bad debt losses result in a lower average return to saving.

Overall, the paper presents a wide range of data on numerous aspects of credit regulation and highlights the complexity of regulatory effects. It illustrates empirically the thesis that regulations impose substantial costs, even when they may benefit certain classes of consumers.

The Transfer Implications of Consumer Credit Regulation

This paper examines the regulation of the consumer credit industry from a somewhat different perspective, viewing the consumer credit regulations as devices for making income transfers between individuals. In some instances, it will be argued, the transfers made are those intended by legislators; in others, the transfers are unintended, and contrary to the intent of the legislation. Still others, though unintended, may be desirable from the point of view of many consumers and their representatives. Essentially all of the regulations applied to the consumer credit industry result in transfers of income or wealth from one consumer group to another. The usefulness or value of the regulation depends on which consumer subgroup point of view is taken.

The following discussion tries to avoid any particular point of view. The objective is to identify the effects on credit markets of several important types of regulations and to provide rough estimates of the transfers that result. When sufficient data are available, recipients or payors are identified. Without a well developed theory of consumer credit markets which includes enforcement and information costs, it is difficult to identify the variety of responses made by firms and consumers to regulation, and thus to identify all subsidies or transfers that arise. But, enough is known about the response of market participants to hazard some educated guesses about the distribution of grants generated by the regulatory system. At a minimum, the total amount distributed as a result of certain specific regulations might be reasonably well estimated.

The Consumer Credit Environment

Control (power) rather than ownership is the key to understanding the creation of transfers or grants in the public sector. The exercise of control over resources not owned is one of the more important factors that distinguishes a free market exchange (such as a purchase or the hiring of labor) from a grant. What legislators and regulators do often has little or no direct financial impact on them personally. The monies and resources they command do not represent their personal incomes or wealth. Nonetheless, they determine the amount of taxes to be collected and the distribution of those funds, and they pass laws and establish regulations that influence the flow of resources in the private sector.

Consumer credit is a commodity produced by the private sector and sold to consumers. Regulations regarding its sale and production are numerous. Most frequently observed are those regulations determining price (interest rates). Information and disclosure regulations are also pervasive (Truth in Lending, for example), and legislation regarding the collection of debts seems to be of increasing importance to regulators and legislators.

This paper focuses on interest rate ceilings and restrictions on the collection of debts. These restrictions result in prices and recoveries of debts that are lower than would likely prevail in a less regulated or unregulated market.[1] The transfer implications of these regulations are complex, involving changes in credit availability, search costs, enforcement costs and interest charges. Where credit is extended with the sale of merchandise, the cost of goods and services can also be affected.

At the end of 1976, there was about $175 billion of consumer instalment credit outstanding (excluding mortgages), including $60 billion in automobile financing (Table 1). Commercial banks held the largest amount of instalment debt ($84 billion), followed by finance companies and credit unions. Retail and bank revolving credit totaled $30 billion, a five-fold increase from levels in the late 1960s, but comprising only about 15 percent of outstanding consumer credit.

Revolving credit is an important means of making transactions in the economy. Substantially more than half of all consumers have some type of credit card. In 1975, revolving credit accounts (with about 1.5 cards per account) numbered about 330 million, compared to about 135 million of the more conventional "closed end" accounts (Table 2).[2] Revolving accounts generated about 5 billion charge slips in 1975, financing an estimated $80 billion in sales.

Over half of all U.S. families owe some type of debt at any given time (excluding mortgage credit), committing between 14 percent and 16 percent of aggregate disposable income annually to debt repayment. Nearly two thirds of all new cars and about half of all used cars are purchased with credit. About 40 percent of all durables are also purchased on credit. In addition, consumers borrow substantial sums from finance companies, credit unions and other institutions in the form of direct personal loans. In 1970, the median amount of consumer instalment debt owed was about $1000 per debtor.[3] It is clear that credit is an important aspect of consumer finances, expecially for young families. With so many consumers involved, it is not surprising that consumer credit is a major political concern.

Legislative Intervention

Legislative involvement in consumer credit is not new. Promises to abolish debt were common among Roman politicans, and interest rate ceilings were set as low as zero percent by Roman legislators. There are several basic reasons given for intervention in the credit market on behalf of consumers. First, concern is expressed that there is an imbalance in market power and that the consumer is relatively ignorant of the legal and economic nature of the market.[4] Thus, it is argued that the consumer will be forced to pay a higher rate of interest than is necessary. A rate ceiling will insure that the necessitous borrower is not excessively charged. Other arguments assert that those who are required by a reasonably well functioning market to pay high rates really should not have credit at all. Such consumers will, it is argued, be protected from themselves by the imposition of a rate ceiling that forces firms to ration them out of the market. Senator William Proxmire observed:

> "High interest rates are a burden on the budget of the average family, and tend to redistribute income from the poor and middle classes to the wealthy. The ready availability of credit also causes some families to overextend themselves by borrowing more than they can really afford."5
>
> "It would be much cheaper for a family to save the money for a major appliance rather than buying it on time..."6
>
> "One also wonders how seriously the staff [of the National Commission on Consumer Finance] considered alternative methods for channeling credit to needy borrowers unable to obtain credit in today's market. A government loan or a loan guarantee program might achieve the objective without costing anywhere near the estimated 3.5 billion [Senator Proxmire's estimate] which consumers will pay if the higher interest rate ceilings recommended by the Commission staff are adopted."7

Finally, there is what might be characterized as the "no one should have to pay that high a rate" view which agrues that rates above some specified level are unconscionalbe and should not be permitted, even if "economically" justified.

The impact of rate ceilings on the credit industry is well characterized by the literature on price ceilings. Output (extensions of credit) is restricted, and there is excess demand at the regulated price. Extralegal markets expand and devices are found for circumventing the restriction on price. The restriction in loan production does not, however, appear as a simpale shortage of goods.[8] Rather, the "shortage" is selective, restricting credit availability to the riskiest of all applicants (demanders). Typically, these consumers have lower, less stable incomes and are less well educated. Those who still get credit at the lower rate could benefit.[9]

Regulatory effects may differ depending on whether the credit is sales credit (provided in conjunction with the sale of goods or services) or cash credit. Some merchants provide "free" credit, but recover credit costs in the price of the merchanidse. Thus, the effects of rate ceilings or collection restrictions can, in part, be evaded, and the process of evasion creates new sets of subsidies and transfers. Providers of cash credit are less able to engage in such activities, since their only business is cash lending.

These views are augmented by similar positions regarding the ability of lenders to collect debts. As one regulatory official recently noted: "In ancient Rome, the creditor had the right to kill the defaulting dobtor, sell him into slavery or retain him as a personal servant for life. No dobut this decreased the default rate. Some contemporary remedies do

TABLE 1

Consumer Instalment Credit
November 1976
(Millions of Dollars)

By Type:	
Automobile	$ 60,002
Mobile Home	11,549
Home Improvement	8,790
Bank Revolving	13,264
Retailers*	17,726
Personal; Other	64,002
	$175,333
By Lender:	
Commercial Banks	$ 84,278
Finance Companies	39,129
Credit Unions	30,053
Retailers*	17,726
Others	4,147
	$175,333

Source: Federal Reserve Statistical Release G.19

*Excludes $2.214 million of "30 day credit."

TABLE 2

Number of Credit Accounts
(Millions of Accounts 1975)

Revolving Credit	
Bank Credit Cards	40
Retail Credit Cards	170
Check Credit	3
T&E[a], Airline, Rent-a-Car, other	20
Oil Company	97
	330 million
Non-Revolving Credit	
Banks (excluding mortgages)	37
Banks (single payment)	7
Retail	26
Credit Unions[b]	24
Finance Companies	41
	135 million

Source: Credit Research Center, Purdue University

[a]Travel and Entertainment Cards like American Express

[b]Contains some revolving obligations

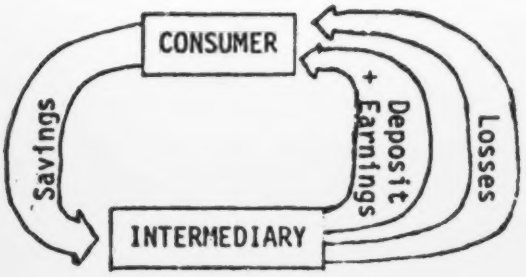
the same thing in a slightly more genteel fashion." Such views have, and continue to be implemented in laws and regulations that proscribe the collection activities of lenders.[10]

The consumer that defaults on an oblighation generally does so because s/he cannot meet payment commitments with current income and the need to make other necessary expenditures. Although not exclusively, these consumers tend to be lower income individuals, and those with high income variability. There have been no studies of the characteristics of the "deadbeat," but one might presume that such individuals would be those who could expect to gain more from a successful default than they would lose from the poor credit rating that would result. Restrictions on the amount of time that "adverse" information can be kept in an individual's credit record lower the cost of bankruptcies and defaults to the consumer involved, whether a deadbeat or not. Since these regulations lower the cost of such behavior, one might, ceteris paribus, expect an increase in the frequency of defaults and bankruptcies due to such regulations.

Identifying The Subsidies

By controlling prices in credit markets, legislators hope to effect certain consumer benefits, namely lower credit costs, or protection from the potential costs of overextension. For the most part, the intended recipients are lower income consumers.[11] The actual outcome, however, is a much more complex set of transfers. To illustrate this, it is helpful to construct a simple model of the lending process. Credit unions provide a good operational example. Consumers deposit savings at a credit union. The credit union, a financial intermediary, makes loans to some of its

depositors. In principle, the intermediary returns the capital (savings) to the depositing consumers, plus all interest earned less the expenses of the operation.



The effect of rate ceilings and limitations on the intermediary's ability to collect delinquent loans is clear. The depositors get a lower return on their savings, due to depressed earnings and higher losses of capital. If each depositor were making a single loan, acting as his or her own lending intermediary, situations in which some savers might lose all their savings when a loan was not collectable would surely arise.

Under the current system, all depositors share the cost of credit losses, but the amount of funds transferred is the same (assuming that the same volume of loans is made).[12] Thus, three grants result from laws that limit interest rates or the ability of an intermediary to collect loans.

1. Those that can still borrow are permitted to get credit at a lower rate;
2. Depositors get a lower return; and
3. When a default occurs, the owed balance is transferred from the saver to the debtor when collection cannot be made.

This, however, is not the end of the story. Other responses occur in a market with alternative investments. Savers, when confronted with lower yields and higher risk may put their funds elsewhere. Since loans are made based on assessed risk, the riskier borrower will be rationed out by the intermediary with less funds to loan out. The intermediary can also shift depositors' funds away from consumer loans, into alternative investments, resulting in the same rationing.[13] This will result in two more identifiable transfers:

4. Consumers rationed out by this intermediary may find credit elsewhere, but at a higher price. The loss to this group is approximately $[R_a - R_i]$. L (assuming that they borrow the same amount), where R_a is the alternative borrowing rate, R_i is the rate charged by the intermediary and L is the size of the loan.
5. Rationed consumers that cannot find alternative financing lose the difference between the value of the intended use of the funds, net of financing costs, and the next best alternative use for the funds that would have been committed to monthly payments.

For some credit markets, the effects are even more complex. Retailers of goods and services and banks provide credit services, but also market many other products and services as well. For such institutions, adjustment in the supply of credit to rate and collection controls may be relatively smaller, or nonexistent compared to pure lenders, since revenue and capital losses can be recovered from other business functions. The extent to which the loss is apportioned to each type of product depends on the price and credit-availability elasticities of sales.

For example, consider a retail firm that has extended credit in a regulatory framework that permits an 18 percent annual percentage rate. Assume the rate is lowered by law to 12 percent. In principle, the firm would now accept only applicants that were "12% risks" or better, refusing credit to many who qualified at 18 percent.[14] However, if sales are more sensitive to credit availability than to an equlivalent price change for merchandise or services, then it may be better to raise prices than to curtail credit availability.[15] Such a change would involve a third group in the transfer process--the cash buyers who receive lower total services for the same price than their credit-card using counterparts. Thus, the users of credit are subsidized by the consumers who pay cash. In general, consumers that qualify for credit are relatively better off financially than those who do not. The lower the maximum allowable rate, the higher the economic status of the users of credit will be compared to those that do not qualify.[16] Thus, for sales credit, one additional transfer is present:

6. Purchasers of goods and services using cash may subsidize the use of credit by credit card users if the costs of providing credit card services are not covered by the credit revenue generated.

One additional subsidy exists that is unique to the credit card environment. The credit card provides a line of credit that can be exercised at the discretion of the holder. If a credit card user pays his or her obligation within a specified period, no finance charge is assessed. Thus, the benefits of card use accrue at no cost to the user. The services, however, are produced at a cost, which must be

covered either by credit users that pay finance charges, or by cash customers, or both. Currently, between 1/4 and 1/3 of retail and bank credit card holders use their cards for a year and pay no finance charges on their accounts.[17] This, however, is not due to any particular regulation, but rather to practices growing out of the now nearly extinct thirty day open accounts offered by many stores years ago. In the bankcard market, it appears that this subsidy is already being reduced through the imposition of annual fees or monthly handling charges imposed when no finance charge is paid.[18] This subsidy is based on the decision of the businessman and is presumably enforced by competition. In some sense, it is a transfer imposed by the threat of the customer to take his business elsewhere (to a firm that will offer a free period). Any one firm providing sales credit that withdrew the free period would run the risk of losing a substantial number of good customers.

More recently, some firms providing sales credit have tried to eliminate the subsidy between free riders and those who pay finance charges by assessing finance charges on the average daily balance. A true average-daily-balance method would assess the user from the day of purchase, when credit is first extended, to the day of payment. This is the basis that all cash credit is provided on.

At the time of writing, legislators in several states have introduced bills that would prevent firms from eliminating the free period or using average-daily-methods, attempting to formalize by law the transfers from those paying finance charges to those who do not. These have been accompanied by the usual flood of bills aimed at reducing the maximum allowable rate of finance or interest charge that can be assessed.

It is abundantly clear that the basic trend in legislation is to formalize or expand many of the grants identified here.

7. Consumers who pay their revolving credit accounts within the grace period allowed use the services of the credit card but pay no fees. The cost of these services is paid by other customers of the intermediary, including other credit users or cash customers or users of other services.

The transfers and subsidies induced by the regulations are numerous and complex. The discussion presented here is probably not exhaustive, since, without a well specified theory of firm behavior and regulation, some responses may not be anticipated and identified. However, those identified here are known to exist, and an examination of their nature should be instructive. Overall, the attempt to secure low rates of interest and finance charges, and to eliminate certain procedures used to collect obligations has:

1. Secured lower rates for some consumers.
2. Resulted in lower returns to consumers that supply funds to the credit market.
3. Changed the cost of enforcing contracts, resulting in potentially larger volumes of bad debts, a transfer from the consumer with loanable funds to the consumer that borrows those funds.
4. Caused a reduction in the availability of credit, at least to certain groups of consumers.
5. Caused consumers to incur higher search costs for credit and, in some cases, to use more expensive sources of credit.

6. Produced a subsidization of users of sales credit (revolving credit) by other customers fo the firm.
7. Produced a subsidy to users of credit cards who never pay finance charges or any other fees for the use of credit card services.

In the last section of this paper, an attempt is made to quantify the subsidies and transfers identified, and to provide some insight into the characteristics of consumers that are party to the grants that have been observed.

Measuring Grants: The Case of Revolving Credit

Although consumer revolving credit makes up only about 15 percent of total consumer instalment credit outstanding, it is an important and growing financial service. Many large firms estimate that over 50 percent of their business volume is transacted through the credit card medium, although much of it is paid off within the grace periods allowed. The credit card provides other services including record-keeping, easier cash management, less risk due to carrying cash, and flexibility in the amount of debt held in the portfolio.[19] Rates that can be charged for credit extended through this medium are established in most every state, ranging from 10 percent to 20 percent. The collection of credit card obligations is generally subject to the same restrictions as most other consumer debt.

Studies of the effects of the imposition of [lower] rate ceilings provide more explicit evidence about the nature and incidence of associated grants. In states with border cities, credit-sensitive business has tended to re-locate in the state with less restriction,

redistributing jobs, incomes, and tax revenues and imposing a different distribution of search and transactions costs on consumers [18].

Subsidies from Changed Credit Availability

The imposition of rate ceilings and restricted creditor remedies results in lower credit costs for consumer that qualify at the restricted rates (less any subsidy paid through higher prices for goods and services). Those that do not qualify for credit from the affected source may find credit elsewhere, possibly at a higher price, or may not get credit at all. A comparison of credit card ownership in Washington, a state that lowered the legal maximum from 18 percent to 12 percent, to California, New York, and Texas (states where comparable studies have been done) indicated that use of credit cards is less extensive in Washington than in the other three states, and, although other plausible theories could be constructed to explain the differences, the findings are consistent with the predicted effects of a lowering of the rate ceiling. Furthermore, a study made immediately after the rate was lowered indicated that firms tightened their lending standards [12]. The imposition of a 12 percent rate in Minnesota led banks to suspend credit card operations. Subsequently, they were resumed, but with the imposition of an annual charge of $10 for the use of a bank card. The Arkansas courts have held that such a charge does not violate state usury statutes (ten percent on all credit).

Some inferences about the incidence of credit rationing in Washington can be drawn from the data in Tables 3 and 4. These show credit card ownership data for families in Washington, California, Texas and New York. The families were selected in each state from among those

TABLE 3

Comparative Card Ownership

	Washington	California	New York	Texas
Retail Cards				
None	a	b	c	d
1-2	46%	25%	26%	27%
3-4	33	36	34	30
5 or more	21	39	40	43
	100%	100%	100%	100%
Bankcards				
None [e]	43%	32%	33%	32%
1	41	48	41	37
2 or more	16	20	26	31
T&E Cards				
None [e]	86%	83%	77%	81%
1	12	13	19	16
2 or more	2	4	4	3
Gas Cards				
None [e]	27%	16%	45%	11%
1	18	19	16	12
2	23	21	15	18
3 or more	32	44	24	59

[a] All holders of at least one department store credit card selected from a representative sample of Washington households selected by Reuben Donnelley. The survey was conducted in 1974.

[b] Based on a sample of retail credit accounts selected from the files of California retailers by Touche Ross & Co. The survey was conducted in 1970.

[c] Based on a sample of retail credit accounts selected from the files of New York retail stores. The survey was conducted in 1973.

[d] Based on a sample of 550 account holders at Sears Roebuck & Co. in Texas. The survey was conducted in 1971.

[e] Includes those who did not answer the question. It is assumed that they had no cards of the type specified: 6% for bankcards; 21% for T&E cards; 3% for gas cards in the Washington study.

TABLE 4

Total Number of Cards Owned

Family Income	Number of Cards					
	1-4 cards			5-9 cards		
	Wash	Calif	N.Y.	Wash	Calif	N.Y.
Under $7500	53%	52%	45%	41%	24%	54%
$7501-10000	49	16	70[a]	43	53	22[a]
$10001-15000	41	15	38	47	59	46
$15001-20000	25	16	24	56	60	51
$20001 or more	12	9	10	47	41	45
All families	36%	18%	30%	47%	49%	45%

	10-14 cards			15 cards or more		
	Wash	Calif	N.Y.	Wash	Calif	N.Y.
Under $7500	6%	22%	*	*	2%	*
$7501-1000	6	31	8[a]	2	*	*[a]
$10001-15000	10	24	11	2	2	5
$15001-20000	18	20	21	1	4	4
$20001 or more	32	38	35	9	12	10
All families	14%	28%	20%	3%	5%	5%

Source: Credit Research Center, Purdue University

[a]This jump appears to be due primarily to lower gasoline card ownership for this income group. Ownership of larger numbers of cards is therefore lower.

with at least one retail credit card.[20] By type of card, ownership of a few or no cards is substantially more frequent in Washington than in the other three states (Table 3). The least difference is observed for T&E cards. This, however, would be expected, since these cards do not offer regular revolving credit options and charge an annual fee. Amounts owed are to be paid upon receipt of the bill, lessening the importance of the low rate ceiling. For oil company cards, New York consumers are the least frequent users, due to the low rate of car ownership in New York City. Excluding oil company cards from the comparison leaves Washington consumers using substantially fewer cards than consumers in the other two states.

These results tend to hold for various levels of income.[21] Table 4 indicates that fewer cards are owned more often by all income groups in Washington, once the effect of low oil company card ownership in New York is accounted for. A more recent study of bank credit cards in Washington and California provides further support, indicating delinquency rates in Washington are only one-half of those in California (one percent vs. two percent) and relatively lower delinquent account expenses for Washington banks (Table 5). The lower delinquency rates and credit costs indicate that better than average risk customers are served in Washington than in California.

Several other studies provide evidence of the likely impact of a tightening of credit standards [7, 12, 23]. Consumers in each study were scored based on their characteristics, as if they were applying for a retail or bank credit card.[22] Table 6 indicates the distribution of income for various ranges of scores in a study of New York retail

credit card users. When a firm tightens its lending standards by raising the minimum acceptable score, the incidence of refusals is found disproportionately among consumers with relatively lower incomes. For example, if the minimum retail score in New York were raised to 80, it would have, based on the scoring model used, eliminated 4.9 percent of the current card users in 1973 (Table 6). Thirty-five percent of those who would have lost access to this type of credit had incomes of $7,500 or less, although this group made up only nine percent of the retail card-using population.

Use of credit cards is concentrated in the higher income groups, and actual use of the revolving option is also concentrated among the middle to upper income groups (Table 7). Thus, in terms of access, frequency of actual use, and amount financed, the group that would benefit the most (be damaged least) from the lowering of the ceiling is probably the middle- to upper-income consumer.

There is very little evidence to indicate what happens to consumers that are rationed out of one segment of the market. The basic rationale for a specialized rate structure for finance companies was the existence of the illegitimate, high rate lenders. A 1971 study of former customers of loan companies in Maine, where legislation had driven most of the finance companies out of business, indicated that about 27 percent were able to get some type of bank loan, while 20 percent borrowed from finance companies still in operation, and three percent from friends or relatives (Table 8). Fifty percent did not borrow additional funds [1].[23] When the more restrictive law was passed in 1967, finance company outstandings were $31 million. By 1978, virtually all finance companies had ceased doing business.

TABLE 5

Bank Card Statistics:
California and Washington
1973-1975 (averages)

	California	Washington
Percent of Total Credit Revenues		
Earned as		
Customer Finance Charges	71%	55%
Merchant Discounts	14%	28%
Late Charges	1%	2%
Percent of Active Accounts		
That were Delinquent	2%	1%
Delinquent Account Costs as A Percent of Total Credit Card Costs*	36%	18%

Source: Credit Research Center, Purdue University

*Includes bad debt losses.

TABLE 6

Simulated Rejections of Credit Cardholders
by Credit Score Cutoff Points
New York Retail Credit Card Users, 1973

Retail Score	Cumulative Percent of Account Holders Affected[a]	Percent with Income Under $7,5000	$10,000	$15,000	$20,000
Raise to 70	3.9	29	32	48	84
(70 to 80)	(1.0)	(53)	(53)	(76)	(99)
Raise to 80	4.9	35	37	55	89
(80 to 90)	(3.7)	(17)	(31)	(64)	(70)
Raise to 90	8.6	27	34	59	81
(90 to 100)	(3.5)	(36)	(44)	(53)	(69)
Riase to 100	12.1	29	37	57	78
(100 to 110)	(5.9)	(7)	(32)	(74)	(85)
Raise to 110	18.0	22	36	62	80
(110 to 120)	(6.3)	(7)	(28)	(46)	(71)
Raise to 120	24.3	18	34	58	78
Bank Score					
Raise to 24	1.6	89	89	100	*
(24 to 29)	(5.0)	(36)	(48)	(75)	(85)
Raise to 29	6.6	50	58	82	89
(29 to 34)	(11.8)	(19)	(53)	(74)	(92)
Raise to 34	18.4	30	55	77	91
(34 to 39)	(17.9)	(8)	(29)	(58)	(84)
Raise to 39	36.3	19	42	68	87
Sample Income Distribution		8.9%	17.3%	42.0%	68.4%

Source: [23]

[a]Figures in ( ) show the incremental proportions of the population affected and the income distribution for that group alone.

Since those losing access to revolving credit when a lower ceiling is imposed is known to be of relatively higher risk, it would seem safe to presume that many, though not all, would get credit only at higher rates. Clearly such was not the intent of the rate restriction, and the failure to anticipate such a response may be one of the potential information feedback problems that lead to "pathological states of the grants economy" to which Boulding refers [2, p.24].

To the extent that the lower ceiling prevents some higher risk consumers from getting credit, it might be said that an intended "grant" had been made, and that these consumers would be protected from themselves and the irresistible urge to over-extend their credit.[24] Since consumers can rarely be expected to borrow just for the fun of it, denial of credit also implies the loss of the value that would have been derived from the expenditure of the borrowed sum (less the consumption value of what would have otherwise been monthly payments). At any point in time, between two and four of every one-hundred accounts may be delinquent (behind one or more payments). Of these, only a few will actually end up written off or in bankruptcy. If possible, the system would have initially discovered two or three accounts per hundred and denied the applicants credit. Instead, consumers must be treated ex ante in groups having roughly the same credit-related characteristics. If economic factors require the elimination of those that most frequently have problems and generate high costs, the entire group would have to be rationed out of the market. Thus, using regulation to save a few families from the difficulties of overextension may deny many more consumers the benefits of access to credit.

TABLE 7

Account Data By Family Income Group
New York Retail Credit Card Users

Total Household Income (1973)	Number of Accounts	Percentage Distribution[b]	Account Average (12-Month Period)[a] Total Sales	Net Sales[c]	Net Revolving Sales	Finance Charges	Number of Revolving Months[d]
$5,000 or under	39 (50)	2.3	$101	$ 92	$ 72	$10.27	4.3
$5,001 - 7,500	115 (70)	6.7	172	169	107	5.18	4.1
$7,501 -10,000	153 (90)	8.9	263	250	172	21.26	6.6
$10,001-15,000	454 (252)	26.5	246	219	138	18.95	5.9
$15,001-20,000	449 (212)	26.2	253	232	136	14.95	5.2
$20,001-25,000	212 (103)	12.4	269	205	85	6.74	4.0
$25,001 or more	294 (120)	17.1	239	224	115	17.36	4.8
All	1,716 (897)	100.0%	$243	$218	$126	$15.21	5.2

Total Household Income	Percent of Net Sales Revolved	Share of Net Sales[b]	Share of Finance Charges[b]	Ratio of Finance Charge Revenues to Net Sales	Ratio of Finance Charge Revenues to Revolving Sales
$5,000 or under	78.2	1.0%	1.5%	11.2%	14.3%
$5,001 - 7,500	63.2	5.2	2.3	3.1	4.9
$7,501 -10,000	68.7	10.3	12.5	8.5	12.4
$10,001-15,000	63.1	26.6	33.0	8.7	13.7
$15,001-20,000	58.5	27.8	25.7	6.4	11.0
$20,001-25,000	41.4	11.6	5.5	3.3	7.9
$25,001 or more	51.6	17.6	19.6	7.8	15.1
All	58.6%	100.0%	100.0%	7.0%	12.0%

[a]Data weighted according to each store's relative share of credit sales for the 17 stores in the New York study.

[b]Percentages may not add to 100% because of rounding.

[c]Net sales = total sales less returns and credits.

[d]Months in which the balance due is not fully paid off.

TABLE 8

Borrwoing Activity and Attitudes
(1971, N = 460)

Feelings About Loss of Finance Company Lender	Alternative Borrowing Activity	
	Obtained Other Funds	No Borrowing
Felt Better Off	74.0%	36.3%
Rid of "burden"	13.0	29.8
Got better credit	59.4	--
Finance companies a necessary evil	--	6.1
No reason given	1.7	0.4
Felt Worse Off	7.0%	36.3%
Too easy to borrow, still under "burden"	6.1	--
No other alternative	--	11.4
Burden of high rates leads to repayment difficulty	--	24.9
No reason given	0.9	*
Felt About Same	19.0%	27.6%
Still with finance co.	7.8	--
Still borrowing elsewhere	9.5	--
Does not matter where you borrow	--	19.7
No reason given	1.7	7.9

Source: Benston [1], page 41.

*less than .5%

When credit is refused, the consumer can search other sources of credit or simply not borrow. Successful searchers incur additional search costs, since their options are reduced, and most will likely pay a higher rate for the alternative source of credit. Unsuccessful searchers incur the added costs of search and must do without the credit and the benefits resulting from its use.

The cost to the consumer of such outcomes is most difficult to measure. To illustrate the complexity and the approach, a somewhat artificial example is presented. Dunkelberg and Stephenson [11] estimated the rate of return to ownership of a washer and dryer when compared with the alternative of using a laundromat. A typical pattern of returns (depending on the number of loads of wash done weekly) is shown in Appendix Table 1. The distribution of the rate of return (a function of loads per week washed, or family characteristics) was computed by family income class [11, Table 10, p.57]. Assume rationing occurs in the form of an increase in the minimum required score for retail credit from ten points to 30 points. This would eliminate six percent of the population from eligibility.[25] Assuming that the total price ($450) is borrowed for the life of the machine (ten years), an example of the cost of credit denial can be calculated on the presumption that for all families in this group, this purchase was the best marginal expenditure available.[26] For the first illustration, assume that credit was available at 18 percent APR, but rationing forces the six percent who are the highest risk to borrow from a lender at 20 percent. The economic loss would total $58 million for these consumers.[27] As a second example, assume that no alternative credit is available and the

purchase of the washer and dryer is not made. Then the economic loss amounts to $224 million, less the value of the next best use of the money. Both figures exclude search costs and are present values.

The Transfer Due to Bad Debt Losses

Viewing bad debt losses as a wealth transfer, there is an additional cost to rationed consumers--the value of bad debt losses that would otherwise accrue to this group. The aggregate amount of such transfers is substantial, and even though the transfer often requires great expense (lawyers, court action), those receiving it are probably made better off.

In 1976, transfers due to bad debts was estimated at $2 billion (Table 9). This figure was derived by applying rather conservative estimates of the loss rates for various types of lenders to outstanding balances at the end of 1976. In addition, considerable expense is incurred in the attempt to collect a debt prior to writing it off. The "cost" of making (or preventing) these transfers is substantial and perhaps counter-productive if the transfer is viewed as desirable.[29]

In the New York retail credit card study [23], bad debt losses amounted to $11 million, an average of $2.12 per active account in the 17 stores studied. In California, the losses amounted to nearly $20 million [26]. Table 10 shows the income distribution of delinquent accounts from a study of California retail store credit card users [10]. The average cost of collection per account was $28, only slightly less than the average loss of $31. The average loss declines with rising income and the frequency with which consumers become delinquent also declines. The data indicate that losses are relatively more frequent and larger among lower income groups. Viewing these losses as transfers,

it appears that lower income groups are more likely to receive them. Sixty percent of the losses were found among families with incomes below $10,000, about 26 percent of the card-using population.

"Free Riders" and the Cash Customer Subsidy

There are no "depositors" that will receive lower returns on their deposits in the case of consumer revolving credit except possibly where bankcards are concerned. Instead, deficiencies from credit card operations will be paid from general revenues, i.e., by all customers at the firm, whether or not they use credit cards. An early study of the 12 percent rate in Washington reported "The majority of retailers responded that they had raised prices on all merchandise to make up for their losses...." [12, p.96]. Several studies of the Arkansas 10 percent rate found that cash prices within the state were higher by approximately enough to cover credit losses. Thus, "credit prices" (the total outlay for an item bought on credit) were the same across state lines, but cash prices were higher in Arkansas [18]. Interestingly, the catalogs of major retailers, which are prepared on a regional basis, make it difficult for merchants to raise prices to cover all credit losses that would be incurred in a less restrictive environment, forcing them to remain relatively more restrictive on credit qualifications than firms in bordering states with higher rate ceilings.

A study of New York retail credit card users [23] indicated that a reduction in the maximum rate to 12 percent from 18 percent could "save" credit card users $14 million dollars, (assuming the same amount of credit is extended). However, this would increase the deficit in the credit operation by an equal amount, from about

TABLE 9

Estimated Transfers From Bad Debt Losses

Credit Outstanding By Type of Lender	Amount (millions of $)[a]	Estimated Loss Rate (percent)	Estimated Net Bad Debt Losses (millions of $)
Commercial Banks			
Revolving	13,264	1.0%	$ 132.6
Other	71,014	0.5%	355.1
Retailers	17,726	1.5%	265.9
Finance Companies	39,129	2.5%	978.2
Credit Unions	30,053[b]	0.5%	150.3
Other	4,147	2.0%	82.9
			$1965.0

[a] November 1976, Board of Governors, Federal Reserve System

[b] Credit unions typically keep delinquent loans on the books for very long periods of time, artificially lowering their loss rate.

Source: Credit Research Center, Purdue University

$29 million dollars to $43 million (Table 11). To continue to earn a competitive return on capital invested, firms would have to raise prices to recover the loss in revenue. The deficiency at 18 percent amounted to 1.3 percent of all sales (3.7 percent of credit sales). At 12 percent, the shortfall would rise to 1.9 percent of all sales. Thus, average prices would have to be increased by .6 percent, inducing a subsidy of considerable complexity as noted earlier in the paper. On a per account basis, the deficiency would be increased from $5.60 to $8.40. Thus, lowering the ceiling rates applicable to credit cards may provide credit at lower rates for most users. This is done, however, at the expense of higher prices (or adjustments in quality, service or other factors) and the rationing of marginal consumers from this market. If total revenues produced by credit card use are less than costs for some users, a subsidy exists. About one-fourth of retail credit card users never pay finance charges. Another 50 percent of the users "free ride" at least once in a one year period. The "free riders" most frequently occur among the highest and the lowest income users (Table 7). The marginal cost of producing credit entails the incurrence of the numerous costs detailed in Appendix Table 2. After the account is open, costs will depend on the number of charges made, the size of the balance owed, the number of returns and credits and average collection and capital costs. Revenues result from gross margins on merchandise and finance charges.

To examine the size and distribution of these subsidies, a measure of cost was determined based on use patterns over the period of a year.[30] Since no measure of cash sales was available, only credit card sales

TABLE 10

Bad Debt Transfers Among Credit Card Users

Income Group	Distribution of Credit Card Users	Probability of Default	Delinquent Accounts: Distribution of Delinquent Accounts*	Delinquent Accounts: Average Cost of Collection Activities	Delinquent Accounts: Average Debt Written Off	Delinquent Accounts: Share of Bad Debt Losses
Under $5000	5.8%	.044	6.3%	$32	$45	9.3%
$5001-7500	5.5	.175	24.1	$43	$33	26.1
$7501-10,000	14.3	.070	25.1	$23	$29	23.8
$10,001-15,000	24.5	.051	31.0	$24	$23	23.3
$15,001-20,000	21.2	.012	7.6	$20	$52	12.9
$20,000 or more	28.7	.008	5.9	$16	$24	4.6
All	100.0%	.040	100.0%	$28	$31	100.0%

*Income was not known for 29% of the problem accounts. They are excluded from the distributional percentages. Their collection statistics were virtually identical to the lowest income group, but that assumption can not be strongly supported by the available data.

were included in the revenue computation. A measure of net revenues, S, was constructed by netting estimated costs against revenues, the variance of which depended on the number of transactions, the volume of sales, the amount of credit actually used and the expected (average) collection costs based on the users income. This measure was regressed on the characteristics of the users in an attempt to discover the direction of subsidies, if any, and particularly with respect to income. The results are shown in Table 12 for New York.[31]

The regression coefficients in Table 12 are estimated so that their weighted sum (the sum of the coefficients multiplied by the number of cases in the group) adds to 0. All coefficients, then, are deviations from the average measure of S for the sample. Negative coefficients indicate that the average difference between costs and revenues for the group was below the mean for all retail credit card users. Since the cost measure only included variable costs, no absolute statement can be made about user profitability. But, it is clear that for some population sub-groups, the difference between revenues and variable costs is likely to be negative. For example, the group of users that are young, single, new on the job and earning a relatively low income could generate an average deficiency of $30 or more.[32] Thus, as a group, consumers with these characteristics are receiving a substantial subsidy in the use of their credit cards, a subsidy paid for by groups generating excesses of revenues over costs, and by all purchasers of goods and services to the extent that deficiencies in the credit card operation are recovered in the price of merchandise. Looking at family income alone, the data indicate that users with incomes of $10,000 or less received a subsidy in the use of their credit card accounts.

TABLE 11

Deficiency of Credit Costs Over Credit Reveneus: New York and California

State	Credit Sales	Total Sales	Current Deficiency[a]	Deficiency at 12%	Deficiency Percent of Sales	
					18%	12%
California	$1,413,741,000	N.A.	$34,867,361[a]	$52,057,300[c]	.9%[e]	1.3%[e]
New York	$776,453,500	$2,223,734,000	$28,841,000[b]	$43,059,900[d]	1.3%	1.9%

[a][26, Exhibit I].

[b][23, page 88]. Includes 15 stores which use several methods for computing finance charges.

[c]Assumes the same proportionate increase as found in New York.

[d][21, page 88]. Assumes that account holders use their accounts in the same way as when an 18% charge is imposed.

[e]Assumes the same ratio of credit sales to total sales as found in New York.

Conclusion

There are an estimated 500 million credit accounts in the U.S. today (excluding mortgages), used by more than half of all families. There is considerable turnover among credit users, with about 25 percent of the families with instalment debt (excluding credit cards) paying off their obligations each year. These are replaced by an approximately equal number of new debtors. In all, these families are using about $175 billion of credit, with an average maturity of about two years.

The use of this credit is controlled by a large body of regulations, with some of the more important being rate ceilings, the Equal Credit Opportunity Act, Truth in Lending, the Uniform Commercial Code, various restrictions on creditor remedies, and the Fair Credit Billing Act. This list is far from exhaustive. These laws were instituted with particular objectives in mind, and each could be evaluated on the basis of just how well the objectives were met. This paper took a slightly different approach. Focusing on rate ceilings and limitations on the ability of creditors to collect debts, an attempt was made to identify the effects, intended or unintended that these regulations have had. The inventory of effects was not exhaustive, but included many interesting and important ones.

Lower rate ceilings were found to provide credit at lower rates to consumers, but only to those who qualified for credit at the lower rates. For example, credit card ownership was found to be substantially lower in Washington, a state with a 12 percent ceiling rate and can loan at rates in excess of 25 percent. Thus, lower rate ceilings in

TABLE 12

Socio-Economic Determinants of Net Revenues
For Retail Credit Card Users
(New York)

	Number of Accounts[a]	Group Mean Less Grand Mean[b]	Adjusted Regression Coefficient[c]	F[d]
Income (1973)				
$5000 and under	8	$16.6	-$ 5.4	0.5
$5001-7500	78	-23.2	- 24.5	77.8
$7501-10,000	131	- 0.9	- 1.9	1.3
$10,001-15,000	380	1.8	0.8	--
$15,001-20,000	407	2.5	4.7	5.1
$20,001 and over	460	0.0	0.0	0.2
Age				
Under 25	83	- 6.1	0.5	0.7
25-34 years	375	- 4.2	- 4.7	2.2
35-44 years	371	- 1.5	- 2.1	--
45-54 years	371	1.2	0.0	1.6
55-64 years	235	5.9	7.7	26.7
65 and over	29	27.1	25.5	33.4
Years with Present Employer				
Under 1 year	119	- 4.1	1.4	2.0
1-2 years	124	-10.0	- 8.2	7.0
3-5 years	290	1.1	2.6	7.5
6-10 years	293	3.0	4.9	17.6
11 or more years	638	0.8	- 2.0	--
Marital Status				
Married	1135	1.4	0.2	--
Single	208	-14.4	- 9.7	23.6
Separated	19	7.3	13.2	6.5
Divorced	36	16.4	17.0	18.9
Widowed	66	9.4	14.7	23.0
Housing Status				
Own Home	935	1.8	- 0.5	--
Rent; other	529	- 3.1	0.9	0.8
Sex of Respondent				
Male	946	2.2	0.3	--
Female	518	- 4.0	- 0.5	0.3
Occupation				
Professional	267	- 0.9	- 0.2	--
Technical; Scientific	100	- 6.4	- 6.3	5.6
Supervisors; Self Employed	344	3.9	2.6	2.1
Clerical & Sales	308	- 4.7	- 5.1	5.7
Craftsman; foremen	141	4.5	4.5	3.5
Service Workers	117	1.0	3.3	1.9
Operatives; unskilled	126	8.5	7.6	8.6
Students; Housewives, Retired	62	-13.4	- 10.0	8.1
CONSTANT			$15.5	

R^2 = .20, Standard Error of Estimate = 21.3, Regression F = 15.2.

[a] 1464 weighted accounts, 722 unweighted. An equal number of accounts were selected from each of 17 stores, regardless of size. Accounts were then weighted to reflect the total volume of receivables they represented. Cases with missing data were omitted.

[b] The deviation of the average net contribution for each group from the overall sample mean of $15 for net contribution.

[c] Adjusted to yield the overall mean of $15.50 as the constant term in the regression equation. Thus, each adjusted coefficient represents a deviation from the sample mean of the dependent variable [5]. The actual regression coefficients for each group can be constructed by subtracting the coefficient for the excluded group from the remaining coefficients in the group.

[d] Excluded category represented by --. F statistics, based on differences between the included categories and the category excluded in dummy variable estimation.

Washington secured lower rates on revolving credit, but for fewer consumers. More consumers turned to finance companies for their credit, paying higher rates and incurring additional search and transaction costs.

It was estimated that a 12 percent rate in New York could save retail credit card users at 17 major stores about $14 million in finance charges, assuming that the same amount of credit remained available. Of course, if credit was not contracted to lower costs, the revenue loss would have to be made up elsewhere, since the retail industry is very competitive and yields relatively low rates of return on invested capital. If firms recouped the loss through higher prices for merchandise, prices would have to rise about .6 percent. Even so, credit users would ultimately benefit with cash customers paying the balance of the credit card operation deficit. Consumers that could find no alternative source of credit would experience even larger opportunity losses, and would join the ranks of the cash buyers, subsidizing credit card users.

Bad debt losses are usually viewed as part of the cost of lending, one of the determinants of the lending rate. In this paper, they were considered as transfer payments, from consumers with savings to those who borrow. In 1976, such transfers amounted to about $2 billion. In addition, large sums of money were spent preventing these transfers (by trying to collect debts). Interestingly, in many cases, these transfers go to the types of people that are often the targets of welfare programs--poorer people with unstable employment, or people struck by misfortune. This is not always the case, however, and many consumers "deserving" of welfare support choose to repay their

obligations, even at great personal expense. When the debts of higher income families go bad, the amounts are often larger (though less frequent), so that the transfer payments may be in some sense, "regressive." All in all, it is probably not a terribly efficient transfer payment system (although perhaps as good as the official programs). Unfortunately, the "taxes" used to support the program come only from savers, and from borrowers that do repay their loans.

The total amount of transfers identified here are not due entirely to regulation. Pure economics dictates an optimal level of "bad debts" those that are expensive to collect, involve a small sum, or have a low probability of collection. There are better uses for resources. But, the regulations can have a substantial effect on the magnitudes of these flows.

Any credit rationing that results from lower rate ceilings on revolving credit has a disproportionately large effect on lower income retail credit card users. Thus, these consumers will least frequently get the benefits of the lower rates, and will be forced to use more expensive credit or become cash customers, subsidizing the credit use of more affluent consumers. A simulation using a sample of New York retail credit card users indicatyd that about 30 percent of the consumers disqualified by higher credit standards among current users of credit cards would have incomes of $7,500 or less (in 1973 dollars), even though they made up about nine percent of the card using population. An attempt to measure the value of access to credit indicated substantial sums were involved, because of the high rate of return attached to durable goods used in the analyses.

The grants intended by credit legislation are substantial and it is not surprising that various constituent groups are very concerned about related legislative developments. But, the response to regulation sets in motion additional transfers which must be accounted for in the process of identifying and measuring regulatory effects. The successful completion of such analyses as those attempted here would seem to be a prerequisite to meaningful evaluation of the social value of such regulation.

APPENDIX TABLE 1

Distribution of Rate of Return on a Washer and Dryer

(Families with Retail Scores Between 10 and 30)

Income Class	% of Rationed[a] Families	RATE OF RETURN[b]										
		2.1%	6.7	10.9	14.8	22.0	29.0	35.8	42.9	50.1	57.4	ALL
$1000	7.0	.67	.17	.08	.03	0	.03	.02	0	0	.02	1.0
$1000-1999	17.1	.55	.35	.03	.03	.01	.02	0	.01	0	0	1.0
$2000-2999	11.0	.33	.48	.06	.04	.01	.02	.02	.04	0	0	1.0
$3000-3999	13.6	.27	.46	.02	.09	.06	.03	.01	.02	.03	.02	1.0
$4000-4999	8.3	.10	.57	.13	.08	.03	.01	.03	.01	0	.03	1.0
$5000-5999	11.4	.08	.40	.13	.16	.05	.07	.05	.03	.01	.01	1.0
$6000-7499	11.0	.09	.30	.10	.18	.09	.12	.03	.06	.02	.01	1.0
$7500-9999	9.2	.04	.27	.16	.15	.13	.10	.08	.05	.02	.01	1.0
$10,000-14,999	7.9	.01	.26	.16	.22	.13	.10	.05	.04	.02	.01	1.0
$15,000 or more	3.5	.02	.27	.16	.23	.14	.10	.03	.02	.01	.02	1.0
	100.0%											

[a] Raising the minimum score from +10 to +30 disqualifies 6% of the population based on the 1967 Survey of Consumer Finances. See Table 10, "A Lower Rate Maximum for Retail Credit: The Impact on Consumers," in Technical Studies Volume VI, The National Commission on Consumer Finance, p. 22.

[b] Table 10, "Durable Goods Ownership and the Rate of Return," W. Dunkelberg and J. Stephenson, in Technical Studies Volume VI, The National Commission on Consumer Finance, p. 57.

APPENDIX TABLE 2

Credit Costs as a Percent of Net Revolving Credit Sales

	New York (1972)[a]	California[b]
Net Revolving Credit Sales	$776,453,500 100.0%	$1,413,741,084 100.0%
Finance Charge Revenue	7.60%	7.8%
Credit Costs		
Personnel Costs		
New Accounts	.50	.31
Account Servicing	1.04	1.35
Account Collection	.42	.51
Additional Sales Personnel	.13	.10
Supporting Services	.11	.07
Management	.05	.07
Data Processing	.25	.20
	2.50%	2.61%
Data Processing Equip.	.16	.15
Credit Investigation	.14	..15
Bad Debt Losses	1.40	1.40
Collection Agency Fees	.17	.15
Credit Space and Equipment	.20	.14
Postage	.40	
Communication	.15	.91
Supplies and other	.46	
Cost of Capital	5.73%	4.76%
TOTAL CREDIT COSTS	11.31%	10.27%

[a] Shay, R. and Dunkelberg, W., Retail Store Credit Card Use in New York, Columbia University Press, 1975, p. 76.

[b] Touche Ross & Co., "Cost Analysis of Retail Store Revolving Credit: State of California," California Retailers Association, Sacramento, California, 1971.

FOOTNOTES

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[1]In the case of recoveries, levels of delinquent debts recovered may remain the same, but the cost of recovery will increase. A more precise statement would require a model of the credit granting process that explicitly modeled the collection process. See Ying [28] and Umbeck and Dunkelberg [27].

[2]A revolving account has no fixed obligation or monthly payment. These may be changed each month at the discretion of the consumer as more purchases are made or more is paid off. "Closed end" accounts are for fixed sums of money for fixed periods of time and with constant monthly payments.

[3]Katona, George, et.al. The 1970 Survey of Consumer Finances, Survey Research Center, University of Michigan, Ann Arbor, 1971, page 21.

[4]This is, no doubt, due in part to the tremendous complexity of the legal framework imposed on this market. Aside from this, it is not clear that the consumer would be in any better negotiating position when buying a TV set or a car or any of the many services typically acquired in the marketplace.

[5]Senator William Proxmire in his commentary on Consumer Credit in the United States: The Report of the National Commission on Consumer Finance, U.S. Government Printing Office, 1972, page 229.

[6]Ibid, p. 229.

[7]Ibid, p. 224.

[8]In the case of goods, the creation of a shortage can result in a distribution in favor of those who can "afford" to queue, those consumers with the lowest opportunity cost of time. This will not occur in the case of credit.

[9]Credit cards assess only one rate, likely due to the cost of accurately assessing risk and the variability of risk over the life cycle. Similarly banks typically charge only a few rates. In general, the rate restriction will make more funds available to "good" customers, lowering rates on loans to those individuals.

Footnotes (continued)

[10]In a study of collection activities at a major retailer in California, repossession was used as a collection device only nine times in a one in five sample of 427 delinquent accounts.

[11]A general inference based on statements made by legislators in defense of limitations measures and by articles written advocating such restrictions.

[12]It is quite likely that in such a market, fewer loans would be made since consumers could not diversify risk and information costs would be too high (see [27]).

[13]In some instances, this is prohibited by law, resulting in such phenomena as "disintermediation."

[14]The situation is more complex, since most credit extensions are made in the form of credit card arrangements. These are not one time extensions but provide the consumer with a line of credit that is difficult to cancel unless mis-used. Thus, the firm cannot adjust its expected losses by cancelling accounts for consumers that fall in the unacceptable credit risk category at a 12 percent rate. No model of credit granting behavior is specified here. Thus, it is not clear at what risk level the firm should begin to refuse applicants to preserve a normal rate of return to capital. For the purposes of this paper, only the direction of the change is of interest.

[15]The price increase required to recoup the one-third reduction in credit revenues would not be large and would affect the condition of all firms simultaneously.

[16]Unfortunately, the issue is clouded by the fact that most, if not all, credit card carrying consumers also pay for some goods and services with cash. Some retailers have estimated that for every charge dollar, the average credit card customer makes cash sales of 60 cents. Thus, "cash" and "credit" customers are not uniquely identifiable groups for the purposes of estimating subsidies, although those consumers without credit cards must, by definition, always be cash customers.

[17]See Dunkelberg [7]; Shay and Dunkelberg [21]; and Touche Ross and Co.; "Cost Analysis of Retail Store Revolving Credit;" State of California, California Retailers Association, Sacramento, California [14]. Actually, this is proportion of active accounts at a representative sample of stores and banks that generate no finance charges. Since consumers typically have numerous cards, if they have any at all, the proportion of consumers, (not accounts) that never pay a finance charge could be lower.

Footnotes (continued)

[18]These fees have been imposed under two conditions. Most frequently, they are found in states with very low rate ceilings (Arkansas with 10 percent, Minnesota with 12 percent). In one other instance, a 50¢ per month fee was imposed when no finance charge was assessed on the bill. This is equivalent to a $6 annual change for "free" use of the card. The position of the bank is that "free riders" are not profitable (a charge is earned from the merchant discount charged) and that if other banks want those customers, they are welcome to them.

[19]See Dunkelberg [7] for a more detailed discussion of these other services.

[20]In Washington, the basic sample was a representative household sample. Those with at least one retail credit card were selected for analysis. In the other three states, samples were drawn from the files of retailers offering their own credit programs. Since families typically have more than one credit card, the theoretical probability of being selected rises with the number of cards owned. This may result in an upward bias in the observed frequency of multiple card ownership in California, New York and Texas.

[21]Inflation and regional differences in incomes compromise the comparisons somewhat, but probably not seriously due to the large intervals in the brackets and the fact that the data were gathered before the major inflationary surge.

[22]Several different actual scoring models were used, along with an "average" scheme based on the relative importance of variables in each model. In some cases, information on a few characteristics was not available. However, based on the weights used in the models, this probably had little effect on relative scores.

[23]Some of these consumers bought more goods on credit, clearly a substitute for direct finance company borrowing. Respondents did not consider this to be "borrowing."

[24]It is interesting to note that we might be viewed as being more tolerant of 25,000 auto deaths annually, plus many more injuries and the family crises this creates than we are of the difficulties that arise from the use of credit.

[25]Table 10, [11], page 22.

Footnotes (continued)

[26]The assumption of continual financing made for the calculation may not be as unreasonable as it seems at first glance. Since consumers are likely to be in debt continually over such a period of time, and the levels are not likely to vary much in terms of total commitment, it is not too artificial to view the consumer as continually refinancing $450, always choosing the cheapest method available. It was assumed that this is always at 18 percent for the ten year period. Other more complex patterns of the marginal cost of funds could be utilized.

[27]Assumes all members of the group with a rate of return above 20 percent (see Appendix Table 2) would make the purchase. The present value is computed at 20 percent and subtracted from the present value at 18 percent. Seventy-five million families are assumed. It is also assumed that the purchase price is financed for the 10 year period. Thus, $58.2 million = 75 X .06 X p X PV_{18} - PV_{20} where p is taken from Appendix Table 2 for groups with a rate of return above 20 percent, PV_{18} is the present value of the purchase at 18 percent.

[28]Assumes no one can make the purchase due to unavailability of credit. The loss is then equal to the net value (in excess of the 18 percent cost of funds) of ownership. It is assumed that the purchase price would have been financed for the 10 year period. The underlying data are in Appendix Table 2.

[29]If the intent of limitations on creditor remedies is to reduce the undesirable aspects (to the debtor) associated with the collection of debts, then resources devoted to the collection process may be viewed as counter-productive by the legislators or regulators limiting remedies. Furthermore, if the intent of legislation restricting remedies has been to eliminate the harassment or personal tragedy associated with delinquency but not to prevent the repayment of legal debts, then the growing use of credit insurance would seem to be a more sensible alternative.

[30]It was assumed (based on some empirical observation) that the cost of processing one additional charge slip was about 5¢, that the cost of capital 8 percent and that the margin on goods was 6 percent, both after taxes. Problem account costs were imputed based on the income of the user and the data presented in Table 12. No fixed costs were included. Thus, S = finance charge revenues + .06 x sales - .05 x number of slips - .08 x average account balance - expected problem account costs.

[31]Since bad debt expense was assigned based only on income, the regressions were re-run excluding this from the computation of S. The results were substantially the same.

Footnotes (continued)

[32]Users with the following characteristics would generate an average deficiency of about $37:

Characteristic	Value
Income: $5001-$7500	-$24.50
Age: 25-34	-$ 4.70
Years with Employer: 1-2	-$ 8.20
Single	-$ 9.70
Rent	$ .90
Occupation: Technical Trades	-$ 6.30
SAMPLE MEAN	$15.50
DEFICIENCY OF COSTS OVER REVENUE	$37.00

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